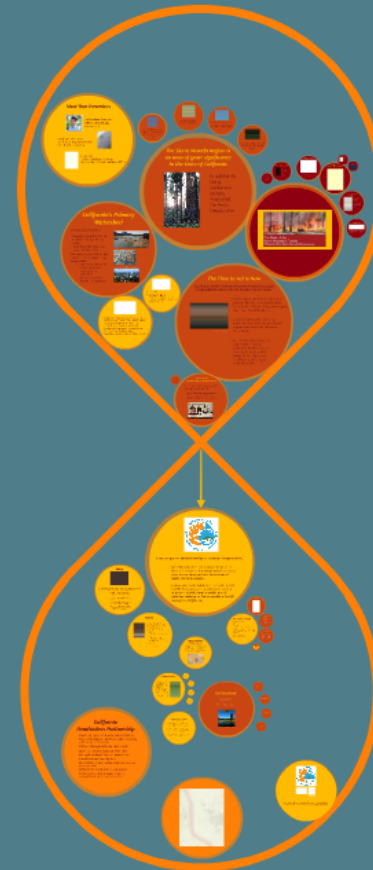


# Time for Change:

## *Sierra Nevada Watershed Improvement Program*



*Pacific Southwest  
Region*

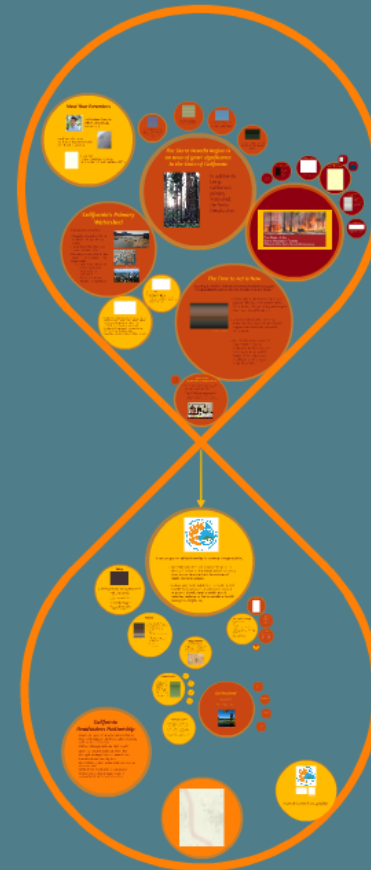


# Time for Change:

## *Sierra Nevada Watershed Improvement Program*



*Pacific Southwest  
Region*



## *Meet Your Presenters*



Jim Branham, Executive  
Officer, Sierra Nevada  
Conservancy

Mandy Vance, Watershed  
Improvement Program Coordinator  
Sierra Nevada Conservancy



Jerry K. Bird  
Regional Forester's Representative  
Forest Service, Pacific Southwest Regional Office



Stores massive  
carbon, assisting  
efforts to combat  
climate change



- Created in 2004
- Region and Governing Board:
  - 22 counties/25 million acres
  - 13-Member Governing Board (6 County Supervisors, 7 State appointees) with 3 Non-Voting Federal Liaisons



- Mission: To initiate, encourage and support efforts that improve the environmental, economic and social well-being of the Sierra Nevada Region, its communities and the citizens of California.
- Implemented a \$50 million Proposition 84 Grant Program in support of our mission.
- Coordinate, Convene, Facilitate, Technical Assistance

Region and governing body

- 22 counties/25 million
- 13-Member Governing Board of Supervisors, 7 State and Voting Federal Liaison

# California's Primary Watershed

The Sierra Nevada Region is:

- The origin of more than 60% of California's developed water supply.
- Headwaters of the State Water Project and federal CVP
- The primary source of fresh water flowing into the Sacramento-San Joaquin Delta
  - A major urban water source
    - San Francisco: 85% from Tuolumne watershed
    - East Bay: 90% from Mokelumne Watershed



Photo by Daniel Parks



- Created in 2004
- Region and Governing Board:
  - 22 counties/25 million acres
  - 13-Member Governing Board (6 County

carbon, assisting in the state's efforts to combat climate change



Is a major producer of wood products and hydro-electric power

## *The Sierra Nevada Region is an area of great significance to the State of California*



In addition to being California's primary Watershed, the Sierra Nevada also:

primary  
ed



Sierra Nevada  
Water  
Resources  
Management  
Plan  
Update  
2015-2020  
Water  
Resources  
Management  
Plan  
Update  
2015-2020

Urgent action is needed in the Sierra Nevada to avoid devastating impacts on California's environment and economy.

The State  
Sierra Ne  
A Report of



Photo by Jenny Downing

Stores massive amounts of  
carbon, assisting in the state's  
efforts to combat climate  
change



Pacific fisher. Credit: US Forest Service or USFS Region 5

Provides crucial habitat  
to hundreds of species



Photo by Jonathan Fox

Provides world-class recreational opportunities enjoyed annually by millions from around the world



Photo by Rasmus Lerdorf

Is a major producer of wood products and hydro-electric power

a's  
ed,  
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also:



### Increased Greenhouse Gas Emissions



- The Rim fire's greenhouse gas emissions were equal to what 2.3 million vehicles would release in a year
- High intensity fires such as Rim and King, will continue to emit GHGs for decades, at a rate 4 times greater than those during the event.
- Stand replacing fires convert conifer forests to brush, which stores about 90% less carbon

Urgent action is needed in the Sierra Nevada to avoid devastating impacts on California's environment and economy.



## The State of the Sierra Nevada's Forests

*A Report of the Sierra Nevada Conservancy*

### Air Quality Impacts



- Wildfires are overwhelmingly the greatest contributors black carbon, a major contributor to global warming.
- Large intense wildfires produce massive amounts of air matter pollution, creating health hazards for humans.

e to Act is Now

***Many Sierra Nevada watersheds are unhealthy,  
with forests susceptible to disease and intense fire***



- Larger, more intense Megafires may have become the new normal.
- Since 2010, fires on the West slope of the Sierra Nevada Region have burned over one million acres.
- The USFS Region 5 estimates that 6 to 9 million acres of National Forests are in need of restoration.
- The high cost of fighting fires has reduced funds available for critically needed federal lands restoration.

- Restoration needs include but aren't limited to:

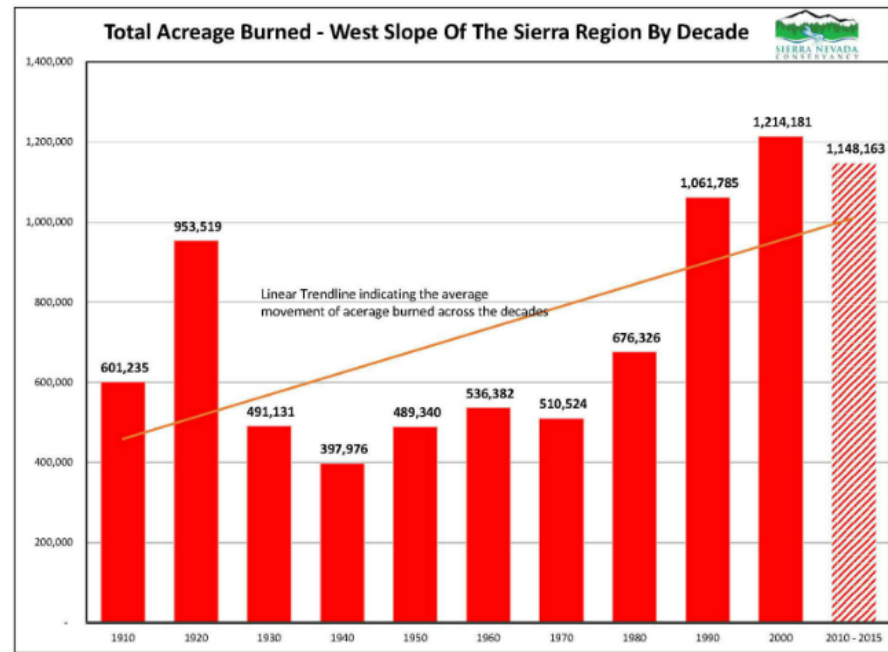
Treatments

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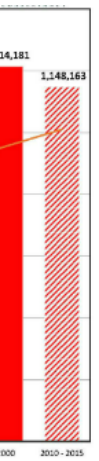
ction Treatments

- 
- Meadow Restoration
  - Road Sediment Reduction Treatments
  - Aquatic Organism Passage
  - Invasive Species Removal
  - Hydraulic Mining Restoration
  - Forest Health/Fuels Reduction Treatments

## Wildfire Is Increasing

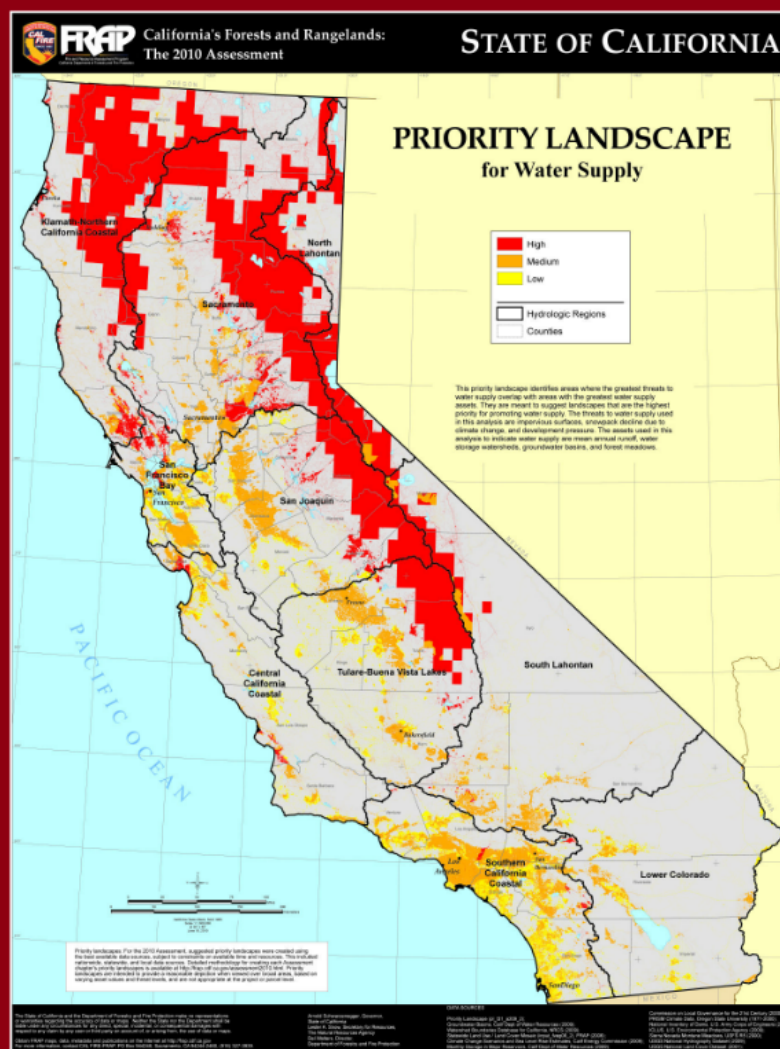


- With 4 years to go in this decade, we have already burned more land than in the entire past 7 decades.
- Fire Severity is increasing, from an average of about 20% high severity to nearly 30%.



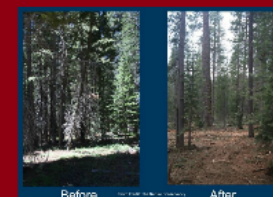
already burned  
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# California's Water Supply is at Risk



## Forest Restoration

- When trees are too dense, up to 60% of snowfall may get trapped in the canopy, making it unavailable for downstream water uses.
- Forest management activities could lead to an increase in snowpack.



Increased Greenhouse

## ***Post-Fire Erosion***



- High-intensity burn areas can experience runoff and erosion rates 5 to 10 times greater than low- or moderate-intensity burn areas.
- High-intensity fires can be followed by severe erosion that severely impacts water quality and storage capacity.

## ***Forest Restoration***

- When trees are too dense, up to 60% of snowfall may get trapped in the canopy, making it unavailable for downstream water uses.
- Forest management activities could lead to an increase in snowpack



**Before**

Photo Credit: The Nature Conservancy



**After**

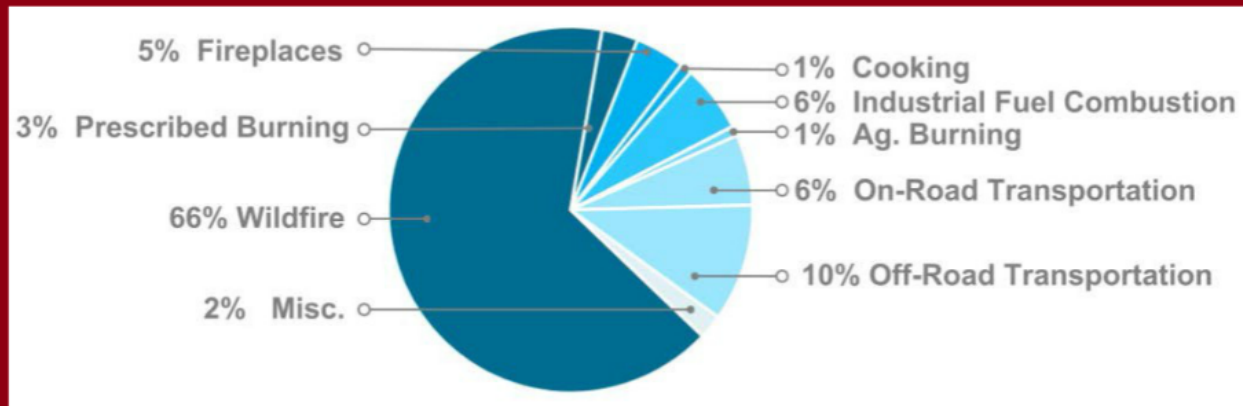
## ***Increased Greenhouse Gas Emissions***



Photo Credit: Ron West

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## *Air Quality Impacts*



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- Large intense wildfires produce massive amounts of particulate matter pollution, creating health hazards for humans.



In 2004  
and Governing Board:  
counties/25 million acres  
Member Governing Board (6 County  
advisors, 7 State appointees) with 3 Non-  
Federal Liaisons

## The Time to Act is Now

According to the USFS, “Only an environmental restoration program of unprecedented scale can alter the direction of current trends.”



Photo Credit: Liz West

- Several high-profile statewide plans and programs identify the importance of the Sierra to the state's well-being and recognize the critical state of the forests.
- A wave of substantial new funding sources in California can be leveraged to support watershed restoration in the Sierra Nevada.
- But at a time when we need an unprecedented scale of restoration, the Forest Service is spending the majority of its budget on fire suppression, resulting in less funding for restoration efforts.

MOU established between CA Natural Resources Agency Secretary Laird and Region 5 Forest Service Regional Forester Randy Moore that:

- Establishes commitment with State and Forest agencies to work cooperatively in the restoration of the watersheds of the Sierra Nevada.
- Changes the Sierra Nevada Conservancy to spearhead the work.

## *The Need and Opportunities for Strong Partners*

- There is already broad support and engagement from a diverse set of agencies and stakeholders under the Watershed Improvement Program (WIP).
- The WIP is designed to
  - support and leverage our partners' programs and objectives to increase their impact and
  - amplify the message for the need for watershed restoration to the rest of the state and the country.



MOU established between CA Natural Resources Agency Secretary Laird and Region 5 Forest Service Regional Forester Randy Moore that:

- Establishes commitment with State and Federal agencies to work cooperatively in the restoration of the watersheds of the Sierra Nevada
- Charges the Sierra Nevada Conservancy to spearhead the WIP



## Primary objectives of the Watershed Improvement Program (WIP):

- To identify watershed restoration needs across the Sierra, and to increase investment and address policy issues in order to ensure the implementation of needed restoration projects.
- To move away from random acts of restoration, and identify places where we can leverage our collective resources and really move the needle towards watershed resilience, so that we can deliver the WIP message in a tangible way.



Lucas

cannot make progress towards  
few examples include:

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CEQA/NEPA

wood and  
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for forest  
emissions  
e

16 Watershed  
Assessment Areas



Funding

Forest Level Assessment

# ***WIP Regional Strategy***

## Regional Level Issue Portfolios

- Water
- Fire
- Habitat/Biodiversity
- Longer-Term, Stable Carbon Sequestration/GHG Emissions
- Common Threads: Traditional Ecological Knowledge, Climate Change Resilience, Infrastructure, Economy, Public Health

## Watershed Level Assessments

- 16 Watershed Assessment Areas

***For***

- Identifying  
estimates
- M
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- Pilot
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Sierra Coordinating  
gathering the  
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- Resto

- Critical contacts

- Demograph
- Wood proc
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- Infrastru
- transport
- Data layers
- Waterways
- Land Own
- Land Use
- Fire Threat
- Fire History

# 16 Watershed Assessment Areas



## ***Forest Level Assessment***

- Identification of watershed restoration needs and estimated costs by National Forests
  - Meadow Restoration
  - Road Sediment Reduction Treatments
  - Aquatic Organism Passage
  - Invasive Species Removal
  - Hydraulic Mining Restoration
  - Forest Health/Fuels Reduction Treatments
  - Others may be added or subtracted depending on conditions on a particular forest
- Pilot assessment underway on Bureau of Land Management lands
- Working with other public land managers such as National Park Service on assessments

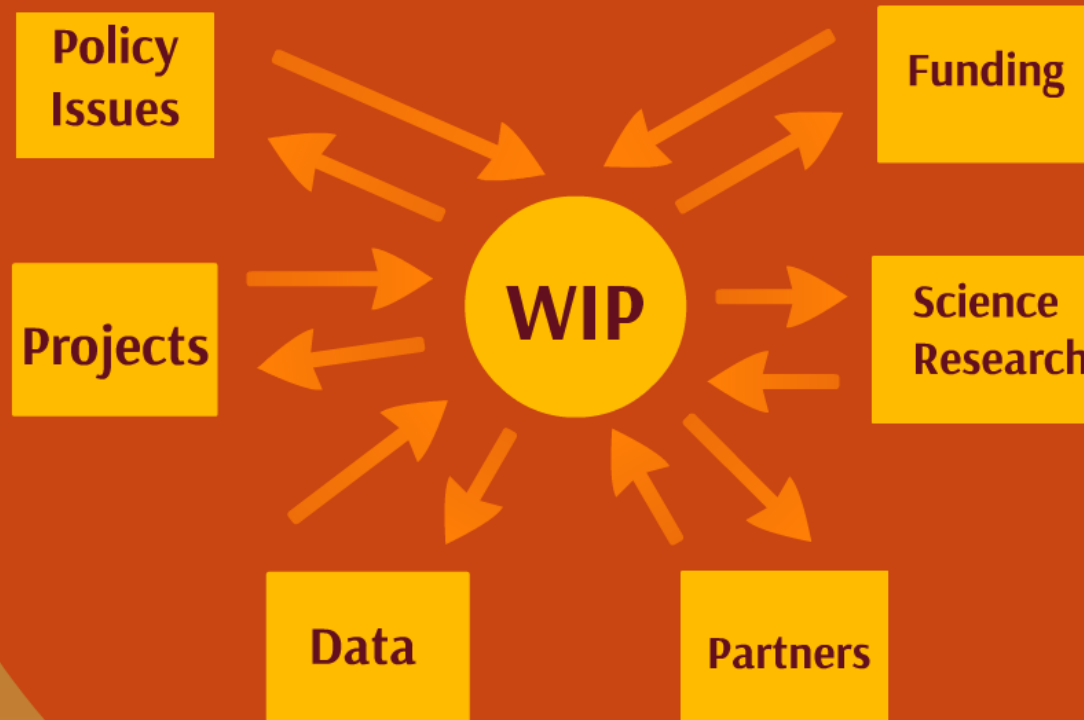
# ***Watershed Level Assessments***

Sierra Coordinated Resources Management Council (SCRMC) is gathering the following information for each of our 16 watershed assessment areas:

- Restoration plans, assessments, and initiatives
  - Critical contacts for groups working in those watershed assessment areas
- 
- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>• Demographic information</li><li>• Wood processing/biomass infrastructure</li><li>• Infrastructure – water, utility, transportation</li><li>• Data layers/maps</li><li>• Waterways</li><li>• Land Ownership</li><li>• Land Use</li><li>• Fire Threat</li><li>• Fire History</li></ul> | <ul style="list-style-type: none"><li>• Fire Return Interval and Departure (FRID)</li><li>• Fish and Wildlife Habitat</li><li>• Crop reports</li><li>• Reports, Studies, and Plans</li><li>• Traditional Ecological Knowledge (TEK)</li><li>• Collaborative Groups</li><li>• Key Stakeholders</li><li>• In-watershed and downstream beneficiaries</li><li>• Model Projects</li></ul> |
|--|--|

# ***The WIP Network***

Our goal is to eventually make the WIP the hub of a network connecting partners to data, funding, projects and each other in order to better make the case for restoration in the Sierra Nevada, and focus and leverage our resources to restore the health of our watersheds.



# *Policy*



Photo Credit: Luxomedia

if impending policy challenges are not addressed, we cannot make progress towards healthy and resilient Sierra Nevada Watersheds. A few examples include:

- Expanding the Use of Prescribed and Managed Fire (Air Quality regulatory process)
- Improving the efficiency of CEQA/NEPA process
- Barriers to developing more wood and biomass processing infrastructure
- Using state funding sources for forest restoration to promote GHG emissions reduction and carbon storage

# Funding



Photo Credit: 401Kcalculator.org

Tracking existing investment, focusing existing funding sources and identifying new funding sources for investment in Sierra Nevada Watersheds. Some examples of opportunities include:

- State of CA
  - Proposition 1
  - Greenhouse Gas Reduction Fund
- Federal
  - Wildfire Disaster Funding
  - Collaborative Forest Landscape Restoration Act
- Beneficiaries
- Cost Share programs

## ***Project Identification and Implementation***

Use watershed assessments to identify watershed restoration needs/costs to increase the pace and scale of restoration across the Sierra Nevada, in order to:

- increase investment in the Sierra Nevada
- more easily connect funders and decision makers to specific projects, issues and partners.



Photo Credit: Kelly Sikkema

# Communication

The success of WIP Communication goals rely upon the support and participation of our partners to help amplify its message.

These goals include:



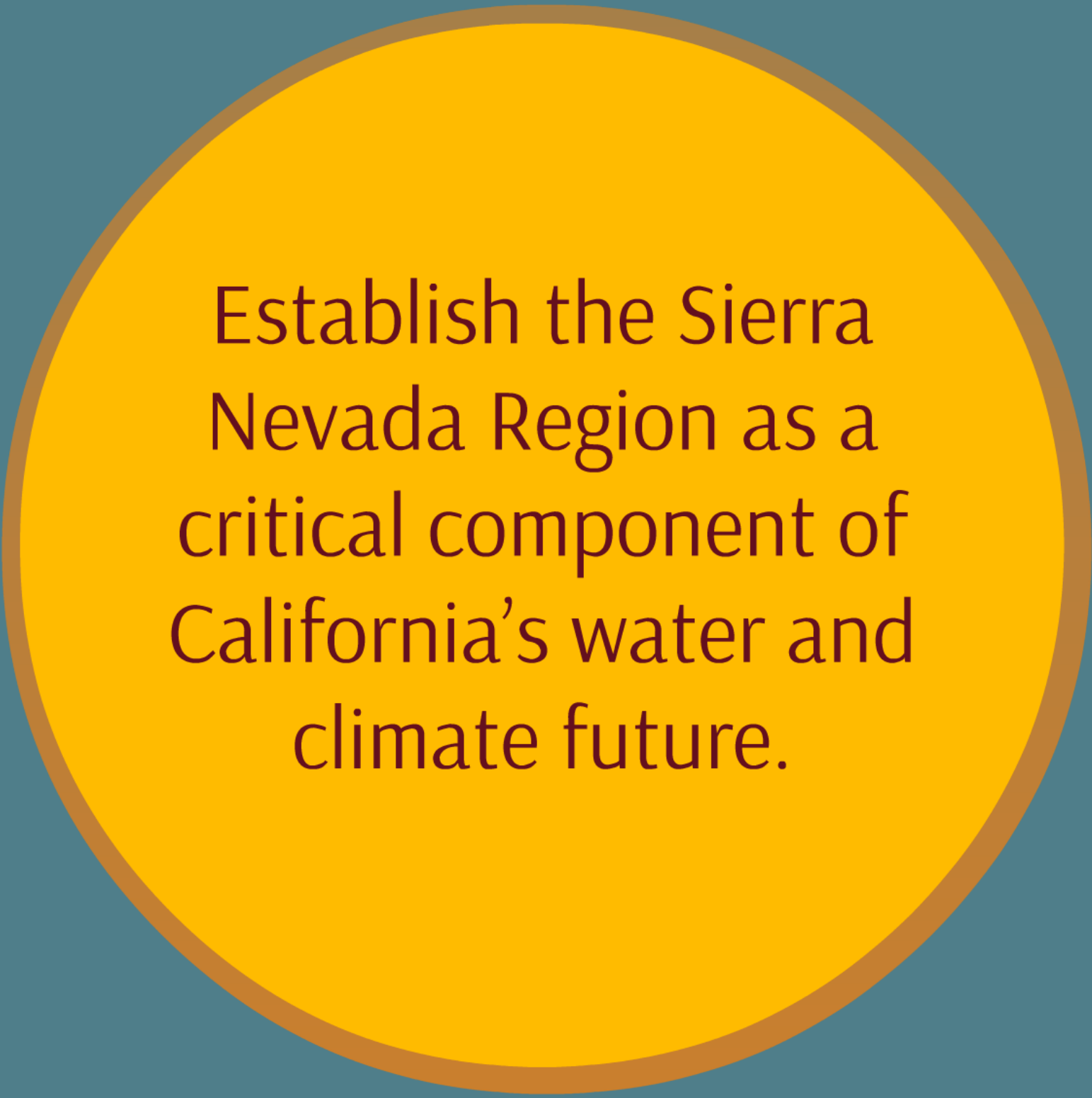
Photo Credit: Jeff Kubina

Establish the Sierra Nevada Region as a critical component of California's water and climate future.

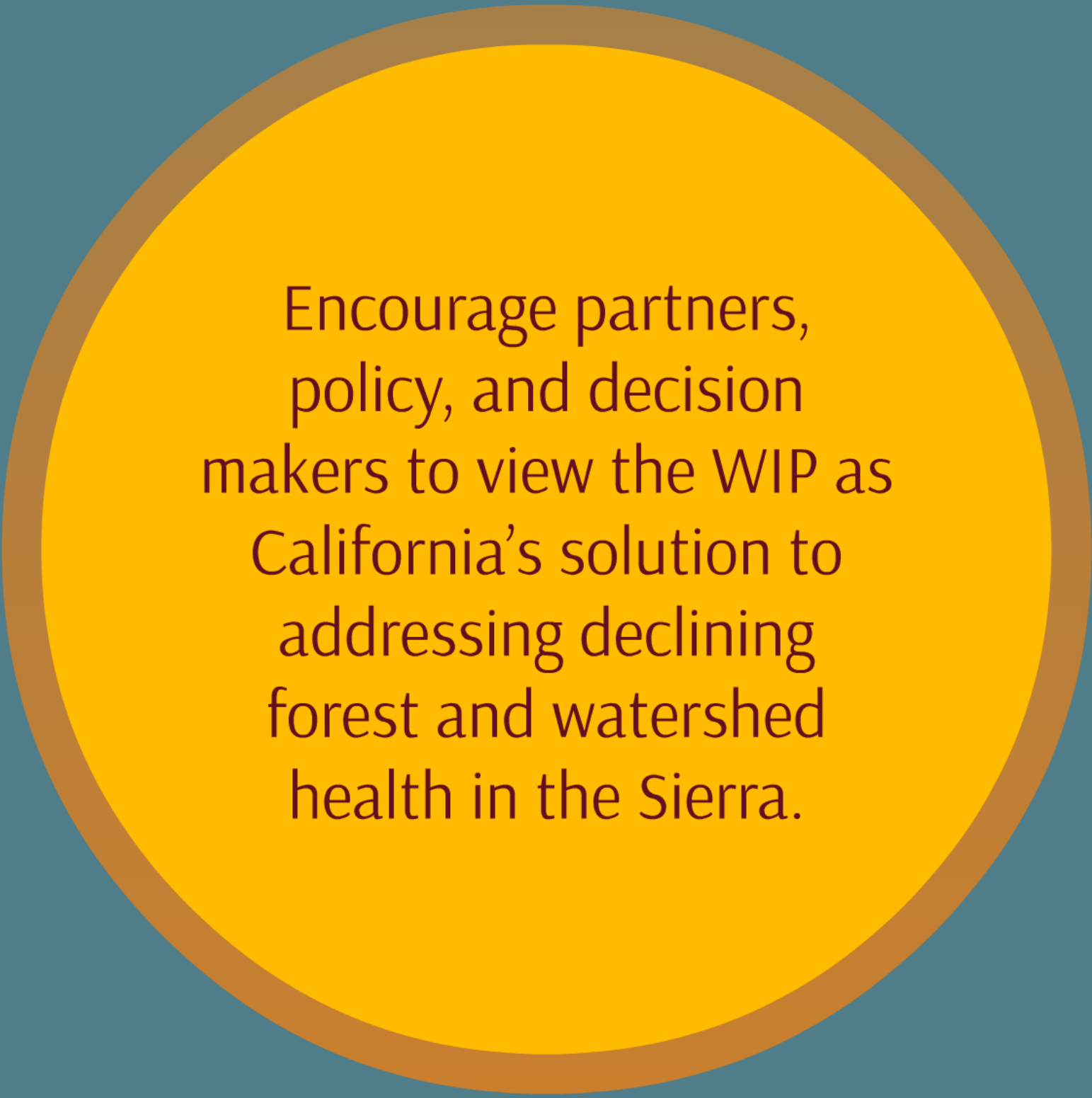
Encourage policy, and makers to visit California's addressing forest and health in

Establish the program for state watershed funding in

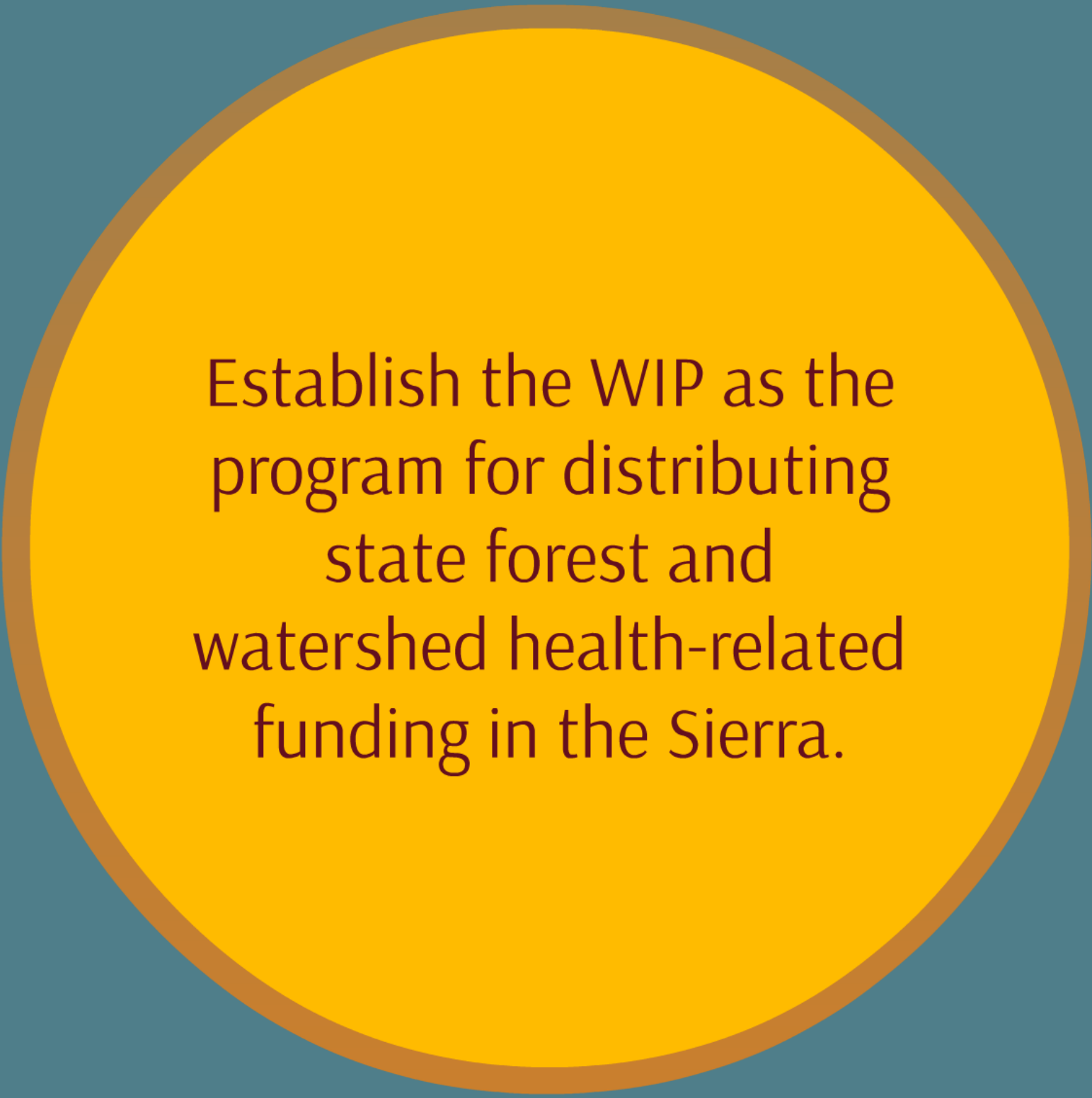
Encourage policy and decision makers to implement new policies and/or recommend legislation that helps to improve forest and watershed health in the Sierra Nevada.



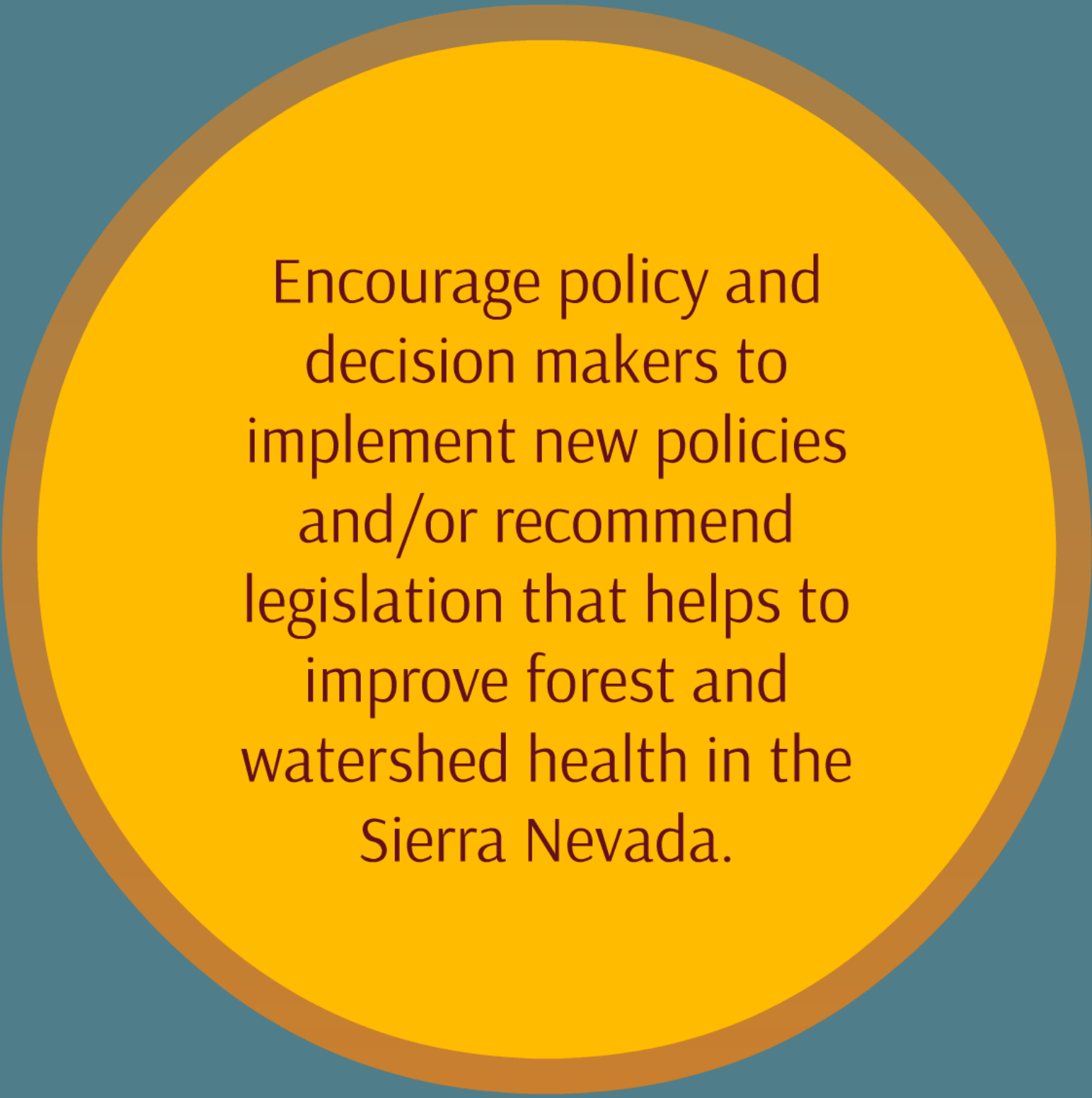
Establish the Sierra  
Nevada Region as a  
critical component of  
California's water and  
climate future.



Encourage partners,  
policy, and decision  
makers to view the WIP as  
California's solution to  
addressing declining  
forest and watershed  
health in the Sierra.



Establish the WIP as the  
program for distributing  
state forest and  
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funding in the Sierra.



Encourage policy and  
decision makers to  
implement new policies  
and/or recommend  
legislation that helps to  
improve forest and  
watershed health in the  
Sierra Nevada.

## ***Timeline for the WIP***

- Fall 2015-Spring 2016: complete watershed assessments; track present investments and focus existing funding in Sierra Nevada watersheds
- Spring 2016 - Spring 2017 and beyond: Refine watershed assessments and focus new funding sources in Sierra Nevada Watersheds
- Present-Ongoing: Address policy issues in order to ensure implementation of restoration projects.

# Get Involved

Endorse the WIP

Work with partners to:



Tenaya Lake by Tom Hilton

Contribute to the WIP watershed level assessments

Help us identify new funding sources that will restore watersheds resilience

Work with partners to address large scale watershed issues

Help us widely share messages that will positively impact barriers to large scale watershed restoration and bring more resources into the Region to implement restoration projects

Encourage partners, policy, and decision makers to view the WIP as California's solution to addressing declining forest and watershed health in the Sierra

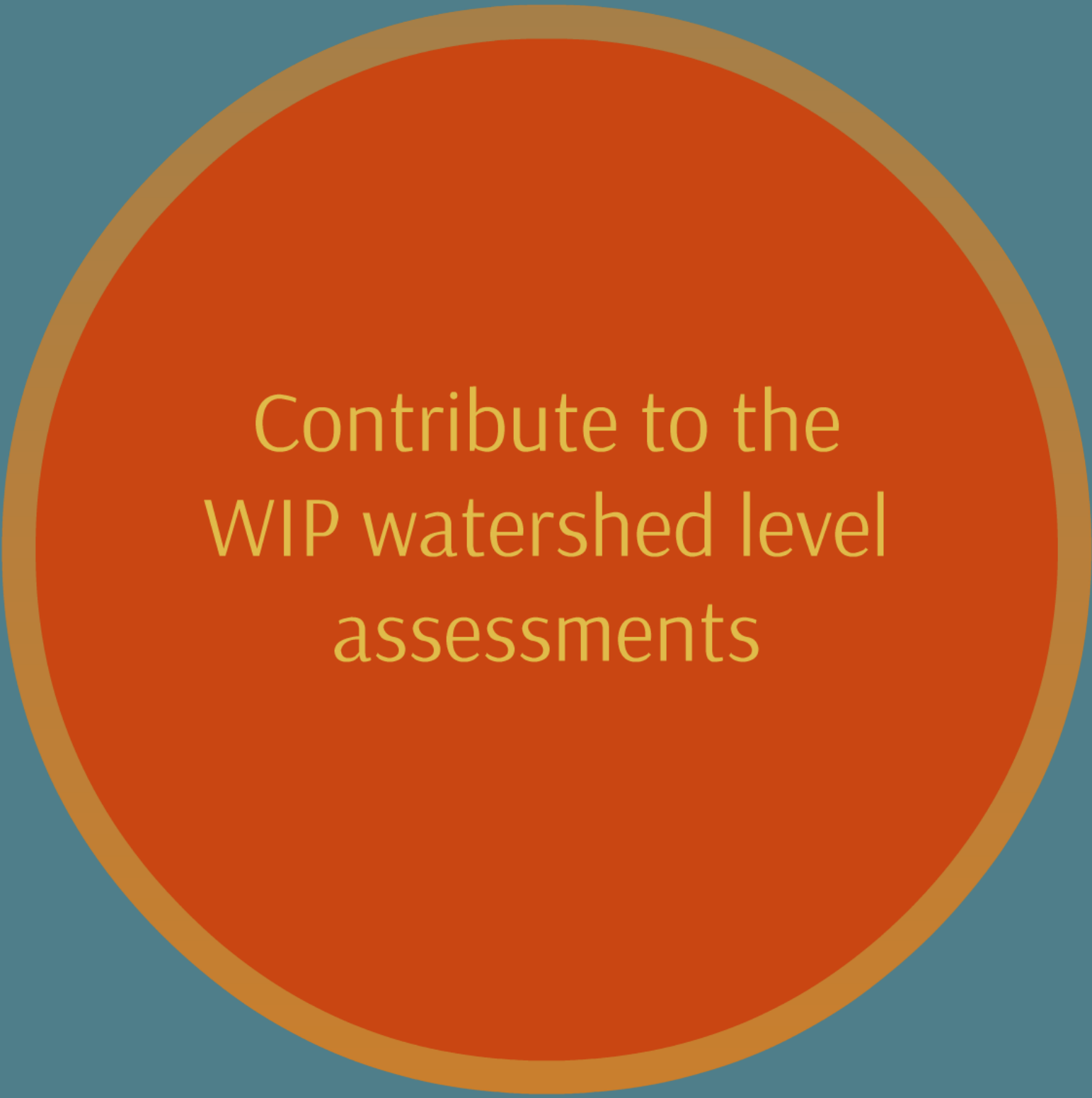
Establish the WIP as the program for distributing state forest and watershed health-related funding in the Sierra

Encourage policy and decision makers to implement new policies and/or recommend legislation that helps to improve forest and watershed health in the Sierra Nevada

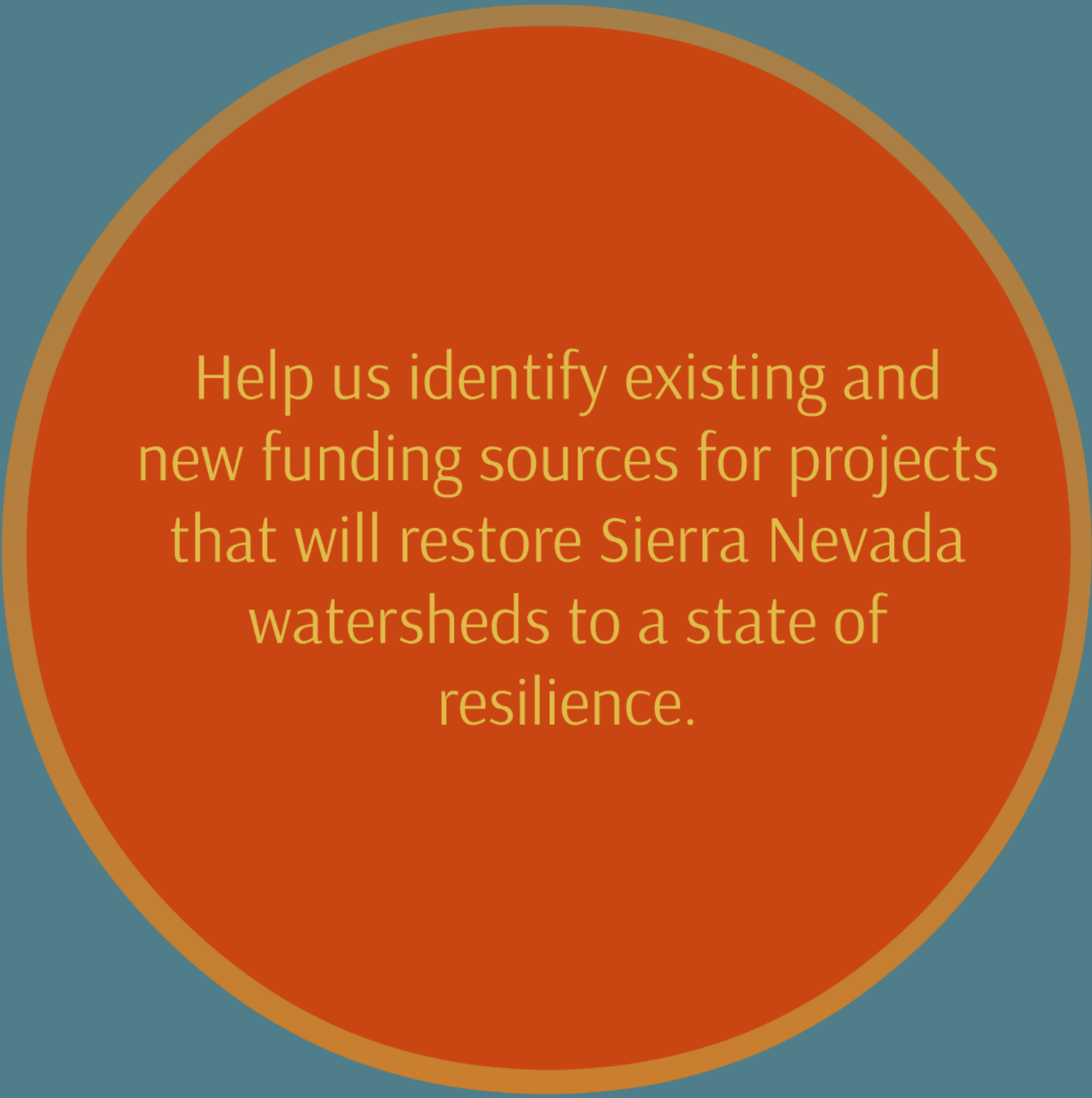
Focus

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Contribute to the  
WIP watershed level  
assessments



Help us identify existing and  
new funding sources for projects  
that will restore Sierra Nevada  
watersheds to a state of  
resilience.



Work with us to identify and  
address policy barriers to large  
scale, ecologically sound  
watershed restoration for our  
watersheds



Help us widely share  
messages that will  
positively impact barriers to  
large scale watershed  
restoration and bring more  
resources into the Region to  
implement restoration  
projects.

# ***California Headwaters Partnership***

- One of seven regions named Resilient Lands and Waters
- Not a formal designation, but shines a spotlight on existing collaboratives within California
- CHP is only RLW region with state-federal co-leads
- Use WIP as foundational analysis to inform effort
- Knit together existing efforts; share lessons learned
- Resilient Lands and Waters objectives
- Map initial priority areas for conservation, restoration, or other investments
- Build resilience, enhance carbon storage capacity
- Develop landscape-scale strategies to assist in advance planning and management activities

## California Headwaters





Pacific Southwest  
Region

[www.sierranevada.ca.gov/wip](http://www.sierranevada.ca.gov/wip)

# Time for Change:

## *Sierra Nevada Watershed Improvement Program*



*Pacific Southwest  
Region*

